

CLAIMS

I/WE CLAIM:

1. An industrial control system for controlling an industrial process comprising:

a plurality of I/O devices capable of exchanging signals with the industrial process;

5 a web access module including a web server coupled to a PLC, wherein the web server is capable of being coupled to at least one remote device via the Internet, and wherein the PLC is coupled to the I/O devices;

10 wherein the web access module further includes programming software that can be utilized to generate a controller program for at least one of the PLC and one of the I/O devices, and

wherein the web server is capable of providing the programming software onto the Internet for transmission to the remote device, so that the remote device is able to generate the controller program.

2. The industrial control system of claim 1, wherein the PLC and the web server are one of: (a) implemented in a single computer executing two programs; and (b) implemented respectively in two different computers that are in communication via a communication link.

3. The industrial control system of claim 1, wherein the PLC executes the controller program, once the remote device has generated the controller program using the programming software and the controller program has been returned to the web access module from the remote device.

4. The industrial control system of claim 1, wherein the programming software is stored within at least one of the PLC, the web server, a memory device within the web access module, a memory device within at least one of the I/O devices and a remote memory device.

5. The industrial control system of claim 4, wherein an existing controller program is stored within at least one of the PLC, the web server, a memory device within the web access module, a memory device within at least one of the I/O devices and a remote memory device.

6. The industrial control system of claim 5, wherein the web server is capable of sending the existing controller program along with the programming software to the remote device by way of the Internet, so that the remote device is able to modify the existing controller program to generate the controller program.

7. The industrial control system of claim 6, wherein it is allowable for the remote device to remotely store a backup copy of the controller program generated based upon the existing controller program.

8. The industrial control system of claim 6, wherein the programming software includes a plurality of versions, and wherein the existing controller program and a plurality of additional existing controller programs are stored in association with the respective versions of the programming software that were employed to generate the
5 respective existing controller programs.

9. The industrial control system of claim 6, wherein the programming software that is sent along with the existing controller program is of a version that was used to generate the existing controller program.

10. The industrial control system of claim 1, wherein the web server is coupled to the Internet by way of an Internet interface, and wherein the PLC is coupled to the I/O devices by way of a control network interface.

11. The industrial control system of claim 1, wherein the web server provides the programming software to the remote device in response to a request received from the remote device.

12. The industrial control system of claim 1, wherein the web server provides onto the Internet, in response to a request received from the remote device, information indicative of another Internet-accessible location at which the remote device can obtain desired programming software.

13. The industrial control system of claim 1 wherein, prior to the sending of the programming software to the remote device, the web access interface must receive a signal indicative of at least one of a payment agreement and a credit card number from the remote device.

14. The industrial control system of claim 13, wherein the signal must be received only when the programming software to be sent is a new version of the programming software that has not earlier been communicated to the remote device.

14. The industrial control system of claim 13, wherein the signal must be received only when the programming software to be sent is a new version of the programming software that has not earlier been communicated to the remote device.

15. In an industrial control system having a plurality of control devices that operate to monitor and control an industrial process, a web access module coupled to the plurality of control devices, the web access module comprising:

a memory means for storing programming software capable of being utilized to generate a controller program for operation on at least one of the web access module and one of the control devices; and

a processor means coupled to the memory means, the processor means for sending the programming software to a remote device and receiving communications concerning the controller program from the remote device, wherein the controller program is generated at the remote device through the use of the programming software,

wherein the web access module is further adapted to allow for communications between the processor means and the remote device by way of the Internet.

16. The web access module of claim 15, wherein the processor means includes a web server and a PLC, and wherein an existing controller program is stored by the memory means in association with a particular version of the programming software.

17. The web access module of claim 16, wherein the control devices are selected from the group consisting of I/O modules, motor controllers, and PLCs.

18. A method of generating a controller program for at least one control device of an industrial control system that monitors and controls an industrial process, the method comprising:

providing a web server within the industrial control system, wherein the web
5 server is capable of communicating with at least one remote device via the Internet;

obtaining programming software capable of being used to generate the controller
program;

providing the programming software onto the Internet for transmission to the at
least one remote device; and

10 receiving from the at least one remote device the generated controller program.

19. The method of claim 18, further comprising:

obtaining an existing controller program from a memory device on which the
existing controller program is stored, the programming software being associated with the
existing controller program;

5 providing the existing controller program onto the Internet for transmission to the
at least one remote device; and

after receiving the generated controller program from the at least one remote
device, storing the generated controller program on the memory device in association
with a version of the programming software that was utilized to generate that controller
10 program.

20. The method of claim 19, wherein the web server and a PLC are included
within a web access module, wherein the PLC is coupled to a plurality of additional
control devices within the industrial control system, and wherein the controller program is
utilized by at least one of the PLC and one of the additional control devices.